Book database Management system

PIC mini project

This Book Database Management System (BDMS) is a software application designed to efficiently manage and organize books within a library or bookstore. It serves as a digital repository, allowing users to store, retrieve, and view book titles.

Purpose:

This program is designed to allow users to:

- Add new books to a database.
- Search for books by their names.
- View a list of all stored books.
- Exit the application after completing tasks.

```c
#include <stdio.h>
#include <string.h>

#define MAX_BOOKS 100

typedef struct
{
    char title[100];
    char author[50];
    int year;
}
Book;
Book library[MAX_BOOKS];
int bookCount = 0;
```

```c
void addBook()
{
    if (bookCount >= MAX_BOOKS)
    {
        printf("Library is full. Cannot add more books.\n");
        return;
    }
    printf("Enter the title of the book: ");
    scanf("%s", library[bookCount].title);
    printf("Enter the author of the book: ");
    scanf("%s", library[bookCount].author);
    printf("Enter the publication year: ");
    scanf("%d", &library[bookCount].year);
    bookCount++;
    printf("Book added successfully!\n");
}
```

```c
void viewLibrary()
{
    if (bookCount == 0)
    {
        printf("Library is empty.\n");
        return;
    }

    printf("Books in the Library:\n");
    for (int i = 0; i < bookCount; i++)
    {
        printf("Book %d:\n", i + 1);
        printf("  Title: %s\n", library[i].title);
        printf("  Author: %s\n", library[i].author);
        printf("  Year: %d\n", library[i].year);
    }
}
```

```c
void searchBook()
{
    char searchTitle[100];
    printf("Enter the title of the book to search: ");
    scanf("%s", searchTitle);

    for (int i = 0; i < bookCount; i++)
    {
        if (strcmp(library[i].title, searchTitle) == 0)
        {
            printf("Book found:\n");
            printf("  Title: %s\n", library[i].title);
            printf("  Author: %s\n", library[i].author);
            printf("  Year: %d\n", library[i].year);
            return;
        }
    }
    printf("Book not found in the library.\n");
}
```

```c
int main()
{
    int choice;
    do
    {
        printf("\nBook Library System\n");
        printf("1. Add Book\n");
        printf("2. View Library\n");
        printf("3. Search Book by Title\n");
        printf("4. Exit\n");
        printf("Enter your choice: ");
        scanf("%d", &choice);
        switch (choice)
        {
            case 1: addBook(); break;
            case 2: viewLibrary(); break;
            case 3: searchBook(); break;
            case 4: printf("Exiting the program. Goodbye!\n"); break
                ;
            default: printf("Invalid choice. Please try again.\n");
        }
    }
    while (choice != 4);
    return 0;
}
```

CONCLUSION

The Book Management System is a practical demonstration of basic programming concepts in C. It showcases the use of arrays, loops, string manipulation, and decision-making structures to manage and interact with data efficiently. This program is simple yet effective, providing a strong foundation for building more advanced applications in the future.

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